REMARKS

STATUS OF THE CLAIMS

Claims 1-13 were pending in this application. Claims 5 and 9-13 have been cancelled without prejudice. Claims 1, 6, 7, and 8 have been amended. New claims 14-16 have been added. Following entry of the amendments claims 1-4, 6-8, and 14-16 will be pending and at issue.

SUPPORT FOR AMENDMENTS TO THE CLAIMS

Claims 1, 6, 7 and 8 have been amended as indicated and new claims 14-16 have been added to more clearly define Applicant's invention. The amendments to dependent claims 7 and 8 add commas following the reference to the respective base claims to conform these claims to the style of the other dependent claims. Support for the amendments to claims 1 and 6 and for new claims 14-16 claims can be found throughout the specification as filed, at, e.g., page 7, lines 12-26, page 9, lines 16-19, page 16, line 16 through page 18, line 20, page 21, line 17 through page 23, line 9, page 33, line 23 through page 34, line 5, page 42, line 28 through page 43, line 18, page 43, lines 27-30, page 60, line 17 through page 63, line 2, page 65, line 22 through page 66, line 8, page 81, lines 1-5, page 82, lines 3-15, page 88, line 18 through page 92, line 20, Fig. 6A, and Fig. 7.

The claim amendments and new claims therefore add no new matter.

SUPPORT FOR AMENDMENTS TO THE SPECIFICATION

The specification has been amended to correct several typographical errors, to add references to sequence identifier numbers in the specification as required under 37 C.F.R. § 1.821(d) and to append a paper copy of the sequence listing filed in parent application 09/259,155, relied upon for priority in the present application. The amendments to the specification therefore add no new matter.

The paper or compact disc copy of the Sequence Listing in this application number 09/929,663, is identical to the computer readable copy of the Sequence Listing filed in application number 09/259,155, filed 02/26/1999. In accordance with 37 CFR 1.82(e), please use the only computer readable form filed in that application as the computer readable form for the instant application. It is understood that the Patent and Trademark Office will make the necessary change in application number and filing date for the instant application. A paper copy of the Sequence Listing is included in this amendment for incorporation into the specification.

IDS

Applicant notes with appreciation the Examiner's thorough consideration of the references cited in the IDS (Form 1449) submitted on 10/03/02.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1, 2, 4 and 7 stand rejected under 35 U.S.C. § 102(e) as anticipated by Mirabelli et al. (U.S. Patent No. 5,639,595). Applicant has amended claim 1 to specify that the perturbagens are proteinaceous, and on that basis respectfully traverses.

As the Examiner notes, Mirabelli's focus is on oligonucleotides. Applicant would like to point out that in the objects of the invention section of Mirabelli et al., the invention is described as (i) identification of oligonucleotides which may be useful as drugs (col. 3:35-36), (ii) identification of oligonucleotides that have desired activity (col. 3:38-39); (iii) identification of oligonucleotides without prior knowledge of the target (col. 3:40-42); (iv) identifying oligonucleotides useful in therapy of disease states (col. 3:43-45); (v) identifying oligonucleotides useful for the determination of the status of bodily functions (col. 3:46-48); (vi) identifying oligonucleotides which are useful as research reagents (col. 3:49-51); and (vii) identifying loci of nucleic acids that control expression of polypeptides having a significant effect on a bodily function of an animal (col. 3:53-55). Notably, no mention is made in Mirabelli et al. of proteinaceous agents that exert a perturbagen-like effect on a cell.

The remainder of Mirabelli's disclosure is entirely reflective of this focus on oligonucleotides. For example, the "Summary of Invention" section focuses solely on oligonucleotides, with no mention of proteinaceous agents. The "Detailed Description" section provides extensive detail about the preparation and testing of random oligonucleotide sequences. The disclosed expression vectors are designed to express only the desired oligonucleotide (i.e. are not suitable for obtaining translation products). Finally, all claims are expressly limited to oligonucleotides. Thus, the entire disclosure is devoid of even the barest reference to utilizing proteinaceous agents that are in any way analogous to the disclosed oligonucleotides. Accordingly, Applicant sees no teaching within the four corners of the cited Mirabelli reference of the use of proteinaceous perturbagens, and respectfully requests that the Examiner withdraw the pending rejection.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 2, 4, 7 and 9-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mirabelli et al. (U.S. Patent No. 5,639,595) in view of Wong et al. (J. Virol. (1994) 68(9):5523-5531. Claims 9-12 are cancelled by this amendment. Applicant traverses this ground of rejection of claims 1,2, 4, and 7 by amendment and argument.

Three requirements must be met for a prima facie case of obviousness. First, the prior art references must teach all the limitations of the claims. Second, there must be a motivation to modify the reference or combine the teachings to produce the claimed invention. Third, a reasonable expectation of success is required.

The cited prior art references do not teach all of the elements of the claims. The deficiencies of Mirabelli et al. are described above. As the Examiner recognizes, the secondary reference, Wong et al. fails to supply the deficiency of Mirabelli et al. to teach or suggest the limitation of amended claim 1 requiring "a library of nucleic acids, each library member encoding a perturbagen within a scaffold structure...." Accordingly, the combination of Mirabelli et al. with Wong et al. cannot render the claims obvious.

Claims 1-7 and 9-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mirabelli et al. (U.S. Patent 5,639,595) in view of Wong et al. (J. Virol. (1994) 68(9):5523-5531) further in view of Ha et al. (Mol. Biochem. Parasitol. (1996)77:57-64). Claims 5 and 9-12 are cancelled by this amendment. Applicant traverses this ground of rejection of claims 1-4 and 6-7 by amendment and argument.

The cited prior art references do not teach all of the elements of the claims. The deficiencies of Mirabelli et al. and Wong et al. are described above. Ha et al. fails to remedy the deficiencies of Mirabelli et al. and Wong et al to teach or suggest the limitation of amended claim 1 requiring "a library of nucleic acids, each library member encoding a perturbagen within a scaffold structure...." Instead, Ha et al. teaches a nucleic acid encoding an LPG1 C-terminal fusion with GFP, not "a library of nucleic acids, each library member encoding a perturbagen within a scaffold structure...." as required by amended claim 1. Accordingly, the combination of Mirabelli et al. with Wong et al. and Ha et al. cannot render the claims obvious.

Claims 1, 2, 4 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mirabelli et al (U.S. Patent 5,639,595) in view of Wong et al. (J. Virol. (1994) 68(9):5523-5531) further in view of Rubin et al. (WO 97/39119). Applicant has amended the claims to clarify that the perturbagens are proteinaceous in nature, within a scaffold structure, and that the screening method of the claims requires introducing a library of nucleic acids into a cell, expressing those sequences, and then determining which host cells contain sequences that provide protection against virally-mediated cell death. Because Rubin et al. is fundamentally different in its teachings, Applicant respectfully traverses the obviousness rejection based on that reference.

Claims 9-12 are cancelled by this amendment. As for claims 1, 2, 4, 7 and 8, Rubin et al. is cited as a secondary reference that allegedly teaches "screening for agents which affect HIV infection" or "other equivalent viruses." (Office Action at pages 6-7)[1]. Rubin et al. teaches a

[1] Applicant respectfully suggests that the Examiner intended to make this rejection with reference to claims 7 and 8, as these claims depend from claim 1 and call out HIV as a target virus against which the instant methods may be applied.

gene-trapping method for identifying genes relating to viral infection. The methodology introduces a retrovirus "gene trap vector" – which is a vector bearing a single promoterless marker gene – into a host cell. Cells are then selected based on marker gene expression, which indicates that the gene trap vector has associated with an actively transcribed cellular gene. Thus, the method only serves to identify endogenous genes. As explained above, Mirabelli's teaching is limited to oligonucleotides, and does not teach screening of an exogenous library of proteinaceous perturbagens. Wong et al., and Ha et al. fail to teach or suggest the limitation of amended claim 1 requiring "a library of nucleic acids, each library member encoding a perturbagen within a scaffold structure...." Rubin et al. fails to remedy that deficiency. Accordingly, the combination of Mirabelli et al. with Wong et al., Ha et al., and Rubin et al. fails to render the claims obvious.

Claims 1, 2, 4, 7 and 9-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mirabelli et al. (U.S. Patent 5,639,595) in view of Wong et al. (J. Virol (1994) 68(9):5523-5531 further in view of Fields et al. (U.S. Patent 5,283,173) Claims 9-12 are cancelled by this amendment. As for claims 1, 2, 4, 7 and 8, Field is cited for its teaching of a two-hybrid system (Office Action at page 7). Field et al. fails to remedy the deficiencies of Mirabelli et al. and Wong et al. to teach or suggest the limitation of amended claim 1 requiring "a library of nucleic acids, each library member encoding a perturbagen within a scaffold structure...." Accordingly, the combination of Mirabelli et al. in view of Wong et al. further in view of Fields et al. fails to render the claims obvious.

Therefore, a prima facie case of obviousness is not made. Withdrawal of this ground of rejection of claims 1-4, 7 and 9-13 is respectfully requested.

CONCLUSION

Withdrawal of the pending rejections and reconsideration of the claims are respectfully requested, and a notice of allowance is earnestly solicited. If the Examiner has any questions concerning this Response, the Examiner is invited to telephone Applicants' representative at (415) 875-2413.

Respectfully submitted,
DELTAGEN PROTEOMICS

Dated: May 22, 2003

By: Michael J. Shuster

Michael J. Shuster, Ph.D.
Reg. No.: 41,310
Fenwick & West LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel.: (415) 875-2413
Fax.: (415) 281-1350